

### **Abstract of the Disclosure**

An opening is defined in an interlayer insulating film, and an amorphous silicon film is formed on the opened interlayer film. Silicon growth nuclei are formed on the amorphous silicon film. The silicon growth nuclei are heat-treated to form a surface-roughened polycrystallized silicon film so that surface roughness of a reverse side of a silicon growth nuclei forming surface increases. The polycrystallized silicon film on the upper surface of the interlayer film is removed to form a concave surface-roughened cylinder. The interlayer film is removed to form a cylindrical surface-roughened electrode .